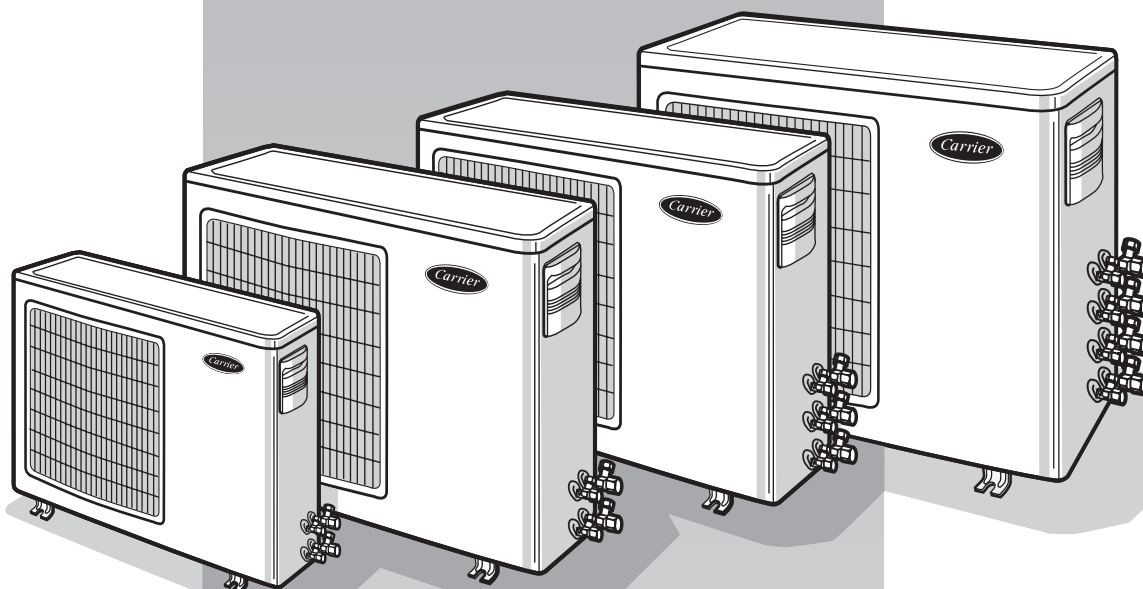




38GL_M...G



38GL2M12G

38GL2M18G
38GL2M24G

38GL3M21G

38GL4M24G

R-410A

INSTALLATION MANUAL

Cooling only multisplit system outdoor units

For operation and maintenance instructions of this unit as well as installation instructions of the indoor unit, refer to the relevant manuals.

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R-410A – QUICK REFERENCE GUIDE

- R-410A refrigerant operates at 50%-70% higher pressures than R-22. Be sure that servicing equipment and replacement components are designed to operate with R-410A.
- R-410A refrigerant cylinders are pink.
- R-410A refrigerant cylinders have a dip tube which allows liquid to flow out of cylinder in an upright position.
- In case of maintenance, R-410A systems should be charged with refrigerant in liquid phase. Use a commercial type metering device in the manifold hose in order to vaporize the liquid refrigerant before it enters in the unit.
- R-410A, as other HFCs, is only compatible with oils selected by the compressor manufacturer.
- A vacuum pump is not enough to remove moisture from oil.
- POE oils absorb moisture rapidly. Do not expose oil to atmosphere.
- Never open system to atmosphere while it is under vacuum.
- When the system must be opened for service, break vacuum with dry nitrogen and replace filter driers.
- Do not vent R-410A into the atmosphere.
- Use only Carrier matching indoor units (Table I).

Models	Oil type	Quantity CC	
		Compressor A	Compressor B
38GL2M12G	PVE	500	---
38GL2M18G	PVE	620	620
38GL2M24G	HAB	630	630
38GL3M21G	PVE	500	630
38GL4M24G	PVE	630	630

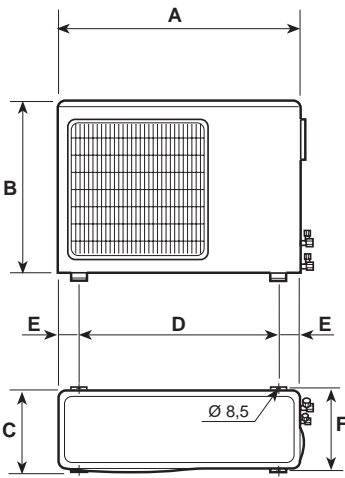
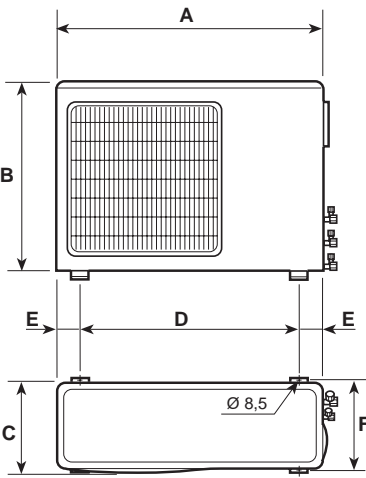
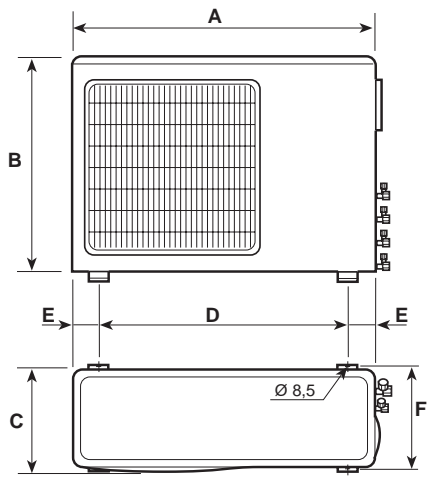

Table I

Cooling only models	Hi-Wall			Console		Cassette	Satellite	Power supply
	42PHW	42HWS-M	42HMC	42VKG-W	42VMC	40GKX	40JX	
38GL2M12G	009-012	009-012	009-012	009-012	009-012	012	009-012	230V ~ 50Hz
38GL2M18G	009	009	009	009	009	—	009	
38GL2M24G	012	012	012	012	012	012	012	
38GL3M21G	009-012	009-012	009-012	009-012	009-012	012	009-012	
38GL4M24G	009-012	009-012	009-012	009-012	009-012	012	009-012	

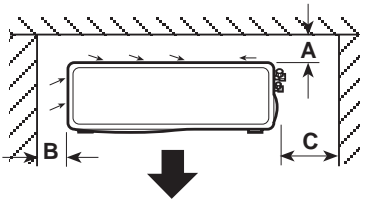
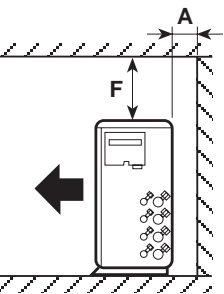
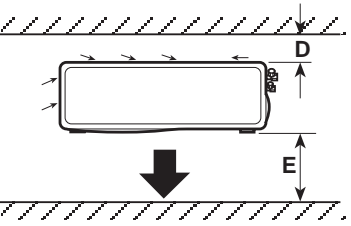
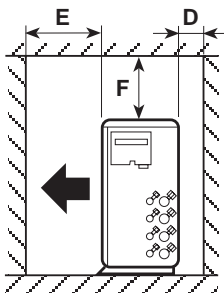
38GL_M...G R-410A

Dimensions, weight and minimum clearances

Dimensions and weight

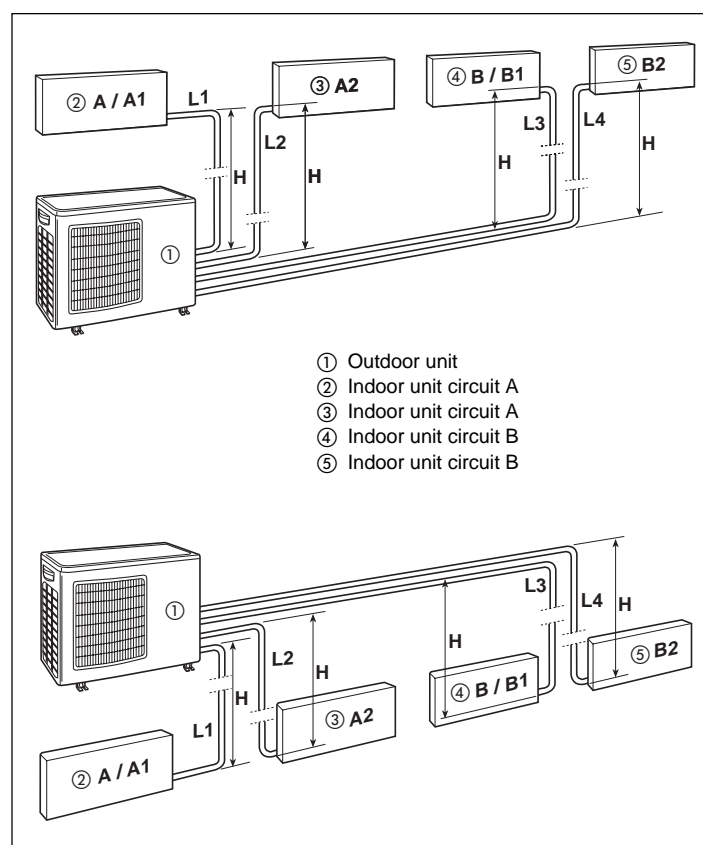
<div><div></div><div></div><div></div></div>						
<div>38GL2M12G</div> <div>38GL2M18G 38GL2M24G 38GL3M21G</div> <div>38GL4M24G</div>						
Model		38GL2M12G	38GL2M18G	38GL2M24G	38GL3M21G	38GL4M24G
A	mm	660	800	800	800	800
B	mm	504	590	590	590	803
C	mm	220	300	300	300	300
D	mm	390	508	508	508	508
E	mm	135	146	146	146	146
F	mm	250	330	330	330	330
	kg	39	55	64	58	69

Minimum clearances

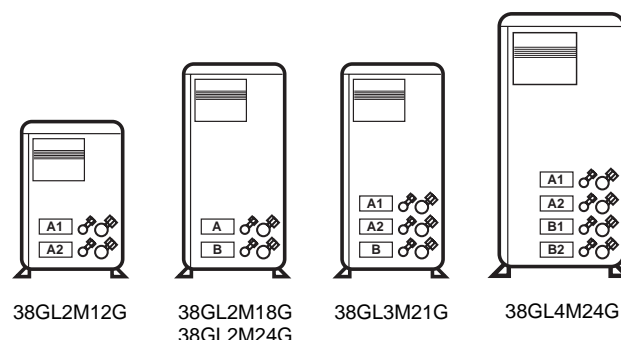
<div><div></div><div></div></div>						
<div></div> <div></div>						
Model		38GL2M12G	38GL2M18G	38GL2M24G	38GL3M21G	38GL4M24G
A	mm	50	100	100	100	100
B	mm	250	250	250	250	250
C	mm	500	500	500	500	500
D	mm	50	50	50	50	50
E	mm	470	470	470	470	470
F	mm	400	400	400	400	400

Connections and operating limits

Connections


Table II: Connections

Model	38GL	2M12G	2M18G	2M24G	3M21G	4M24G
Max. height difference	H m	5	5	5	5	5
Max. pipe length	L1 m	—	15	15	—	—
	L2 m	—	—	—	—	—
	L3 m	—	15	15	15	—
	L1 + L2 m	15	—	—	15	30
	L3 + L4 m	—	—	—	—	30
Differenza max	L1 - L2 m	5	—	—	5	5
	L3 - L4 m	—	—	—	—	5
(Minimum number of bends possible)						
Refrigerant charge R-410A		max m	max m	max m	max m	max m
- No refrigerant to be added for pipe length up to		15	8A + 8B	8A + 8B	8A + 15B	15A + 15B
A = Circuit A						
B = Circuit B						
- For longer pipes add refrigerant, grams/meter		—	15	15	—	15



Model 38GL	Indoor unit	Pipe diameter	
		Liquid (Liquid) mm (inches)	Gas (Suction) mm (inches)
2M12G	A1	6.35 (1/4")	9.52 (3/8")
	A2	6.35 (1/4")	12.70 (1/2") (note 1)
2M18G	A	6.35 (1/4")	9.52 (3/8")
	B	6.35 (1/4")	9.52 (3/8")
2M24G	A	6.35 (1/4")	12.70 (1/2")
	B	6.35 (1/4")	12.70 (1/2")
3M21G	A1	6.35 (1/4")	9.52 (3/8")
	A2	6.35 (1/4")	12.70 (1/2") (note 1)
	B	6.35 (1/4")	9.52 (3/8")
4M24G	A1	6.35 (1/4")	9.52 (3/8")
	A2	6.35 (1/4")	12.70 (1/2") (note 1)
	B1	6.35 (1/4")	9.52 (3/8")
	B2	6.35 (1/4")	12.70 (1/2") (note 1)

Notes

1) When the indoor unit is as large as 009, use 9.52 mm (3/8") pipes with the flare tap adapter supplied.

Important: do not connect the indoor unit size 012 to the circuit B.

2) All fittings are flare type.

3) Use only refrigeration grade pipes, (Cu DHP type according to ISO 1337), seamless, degreased, deoxidized and suitable for operating pressures of at least 4200 kPa. Under no circumstances must sanitary type annealed copper pipe be used.

Minimum nominal thickness

Pipe diameter inches - mm	Minimum nominal thickness mm
1/4" - 6.35	0.80
3/8" - 9.52	0.80
1/2" - 12.70	0.80

Table III: Operating limits ⁽¹⁾

Cooling (2)	Maximum conditions	Outdoor temperature 43°C
		Indoor temperature 32°C d.b.; 23°C w.b.
	Minimum conditions	Outdoor temperature 21°C (3)
		Indoor temperature 21°C d.b.; 15°C w.b.
Mains power supply	Nominal single-phase voltage Operating voltage limits	230V ~ 50Hz min. 198V – max. 264V

Notes: 1. Data referred to the outdoor unit only.
 2. According to ISO 5151.2/T1.
 3. For lower temperatures use low-ambient kit

d.b. - dry bulb
 w.b. - wet bulb

General information

Unit installation

R-410A systems operate at higher pressures than standard R-22 systems. Do not use R-22 service equipment or components on R-410A equipment.

Read this instruction manual thoroughly before starting the installation.

- This unit complies with low-voltage (EEC/73/23) and electro-magnetic compatibility (EEC/89/336) directives.
- Check that the impedance of the mains power supply is in conformance with the unit power input indicated in the electric data table IV, on page 10 (EN 61000-3-11).
- The installation must be carried out by a qualified installer.
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- Check that voltage and frequency of the mains power supply are those required; the available power must be adequate to operate any other possible appliances connected to the same line. Also ensure that national safety code requirements have been followed for the mains supply circuit.
- The mains supply must be connected to the outdoor unit.
- Connect indoor and outdoor units with field-supplied copper pipes by means of flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO1337), degreased and deoxidized, suitable for operating pressures of at least 4200 kPa. Under no circumstances must sanitary type annealed copper pipe be used.
- After installation thoroughly test the system operation and explain all system functions to the owner.
- Leave this manual with the owner for consultation during future periodic maintenance.
- Use this unit only for factory approved applications: **the unit is suitable for outdoor installation.**
- This installation manual describes the installation procedures of the outdoor unit of a residential split system consisting of two units manufactured by Carrier. Consult factory or a qualified system engineer prior to connecting this unit to any other manufacturer's indoor unit. Coupling units which have different control systems, may cause irreversible damage and void the warranty protection. The manufacturer declines any liability for system malfunction resulting from unapproved coupling.

IMPORTANT:

During the unit installation make first refrigerant connections and then electrical connections. If unit is uninstalled first disconnect electrical cables, then refrigerant connections.

WARNING:

Disconnect the mains power supply switch before servicing the system or handling any internal parts of the unit.

- The manufacturer declines any liability for damage resulting from modifications or errors in the electrical or refrigerant connections.
- Failure to observe the installation instructions or use of the unit under conditions other than those indicated in Table III "Operating limits", will immediately void the unit warranty.
- Failure to observe electric safety codes may cause a fire hazard in case of short circuits.
- Inspect equipment for damage due to improper transportation or handling: file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of any malfunctioning turn the unit off, disconnect the mains power supply and contact a qualified service engineer.
- This equipment contains R-410A refrigerant, a substance that is not depleting the ozone layer.
- All of the manufacturing and packaging materials used for your new appliance are compatible with the environment and can be recycled.

- Dispose of the packaging material in accordance with local requirements.
- This equipment contains refrigerant that must be disposed of in a proper manner. When disposing of the unit after its operational life, remove it carefully. The unit must then be delivered to an appropriate disposal center or to the original equipment dealer.
- When lifting the unit, absolutely do not use hooks inserted in the side handles, use special equipment (e.g. lifting devices, trolleys, etc.).
- Carefully recover refrigerant within this unit before final disposal or when servicing. Never vent refrigerant to atmosphere. Use approved recovery equipment for R-410A refrigerant. Do not use R-22 equipment.

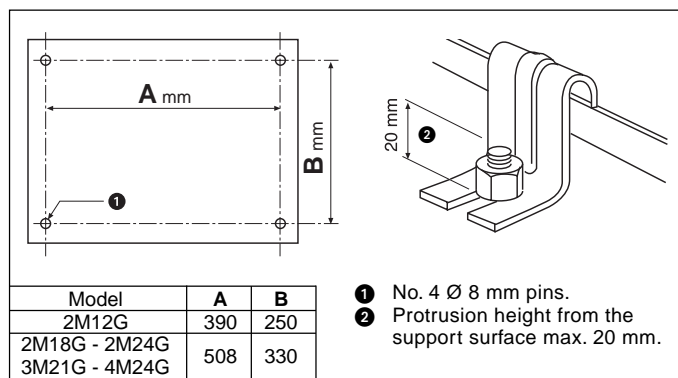
Choosing the installation site

Positions to avoid:

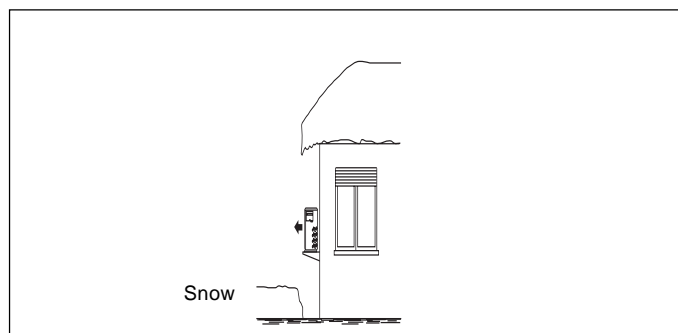
- Exposed to direct sun.
- Too close to sources of heat radiation, vapour or flammable gas.
- Particularly dusty areas.

Recommendations:

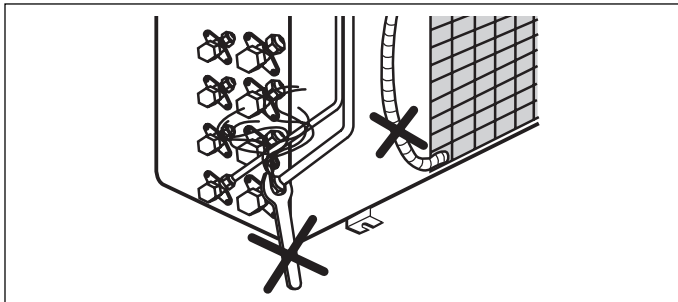
- Choose a position protected from opposing winds.
- Choose a position sheltered from direct sun.
- Choose an area where air outlet and unit noise will not bother your neighbours.
- Choose a position that allows for the clearances required.
- Floor structure should be adequately strong to support unit weight and minimize vibration transmission.
- Consider a position which will not obstruct passageways or doors.



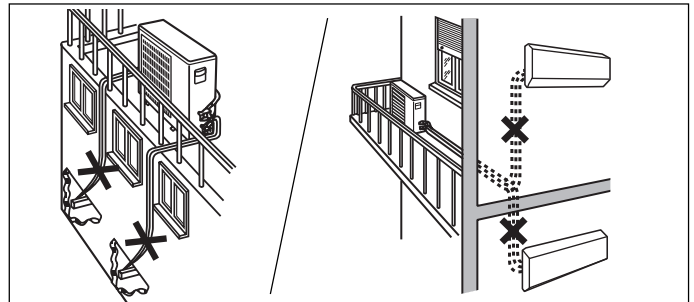
- Fix the unit with locally purchased bolts buried in the block to prevent overturning due to strong gusts of wind.



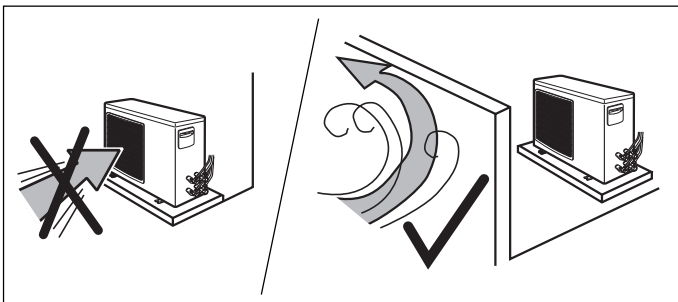
- If the unit is installed in areas where heavy snowfalls may occur, it is necessary to raise its level at least 200 mm above the usual snow level or alternatively to use the outdoor unit bracket kit.



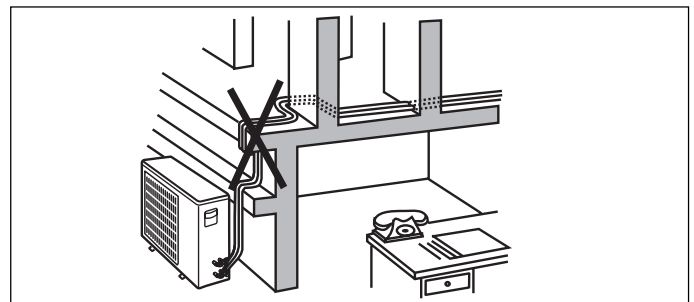
Disconnecting the refrigerant connections after installation: this will cause refrigerant leaks.
Connecting the condensate drain pipe to the outdoor unit.



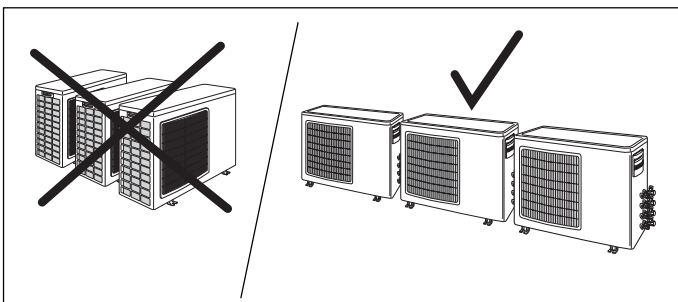
Excessive height difference between indoor and outdoor unit (see Table II "Connections"). Excessive distance between indoor and outdoor units. (see Table II "Connections").



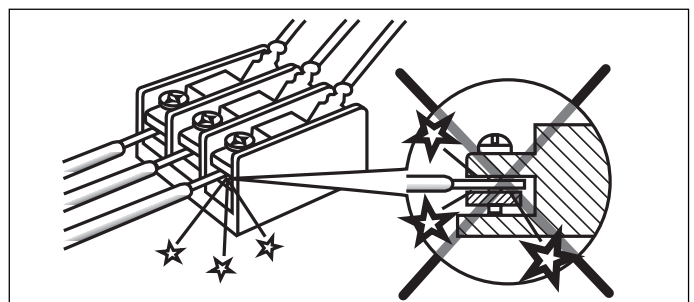
Predominant head winds.



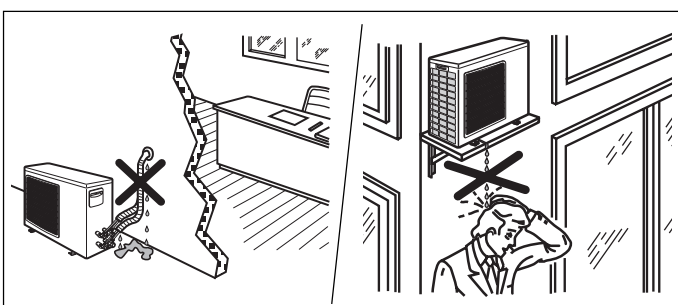
Unnecessary turns and bends in the connecting pipes.



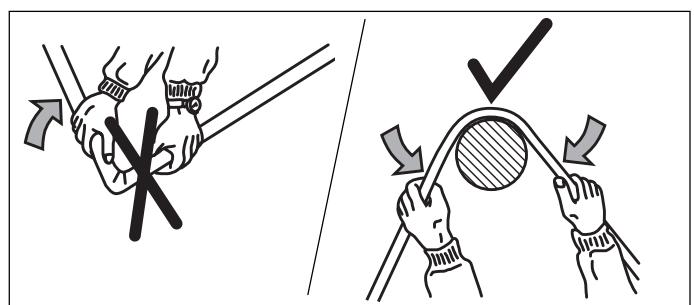
Multiple unit installation with units facing each other.



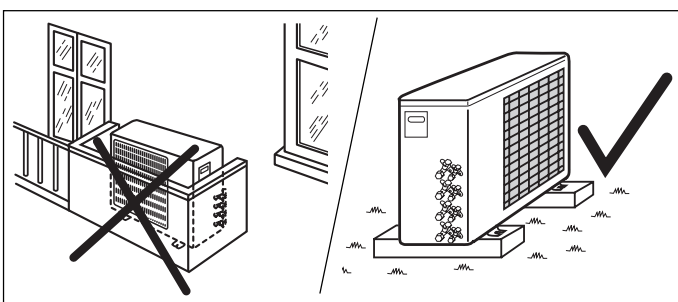
Any slack in the electrical connections.



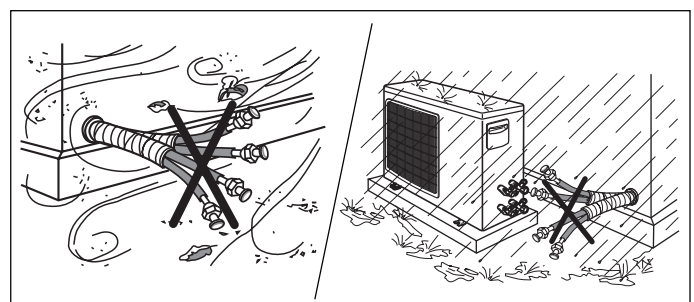
Insulating the connecting pipes only partially, which will cause dripping. Dripping into passageways.



Flattening or kinking of refrigerant or condensate pipes.

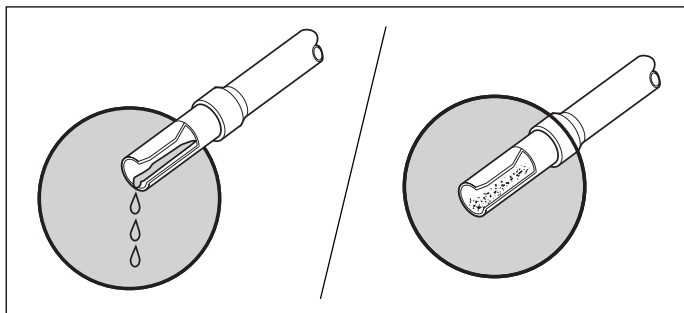


Any obstruction of the unit air outlet and intake or any obstacle that is too close (see minimum clearances required). Installation on grassy ground or soft surfaces (in these cases a solid foundation must be included).

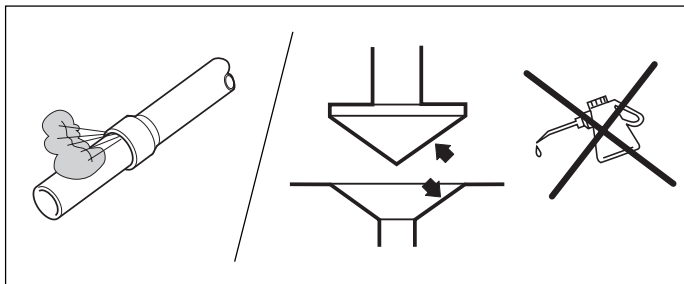


Soiling of pipe ends.
Allowing piping to get wet before connection.

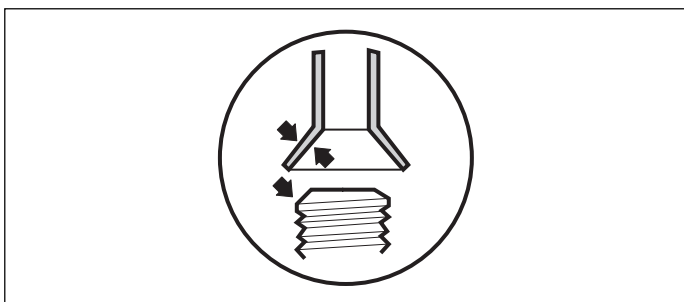
Refrigerant connections



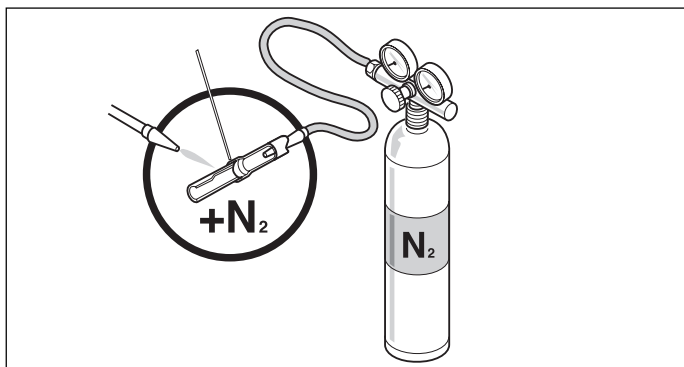
No moisture.
No dust.



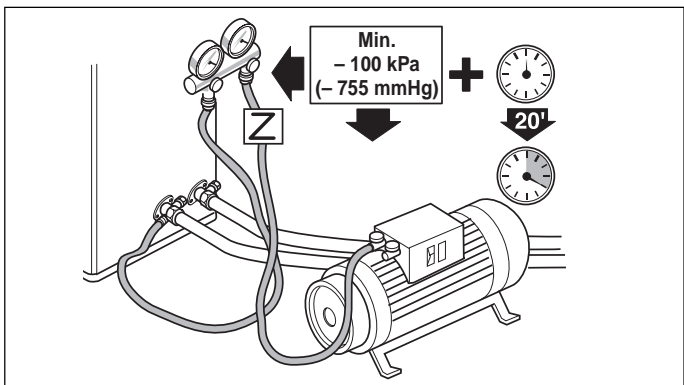
No leak.
No mineral oil.



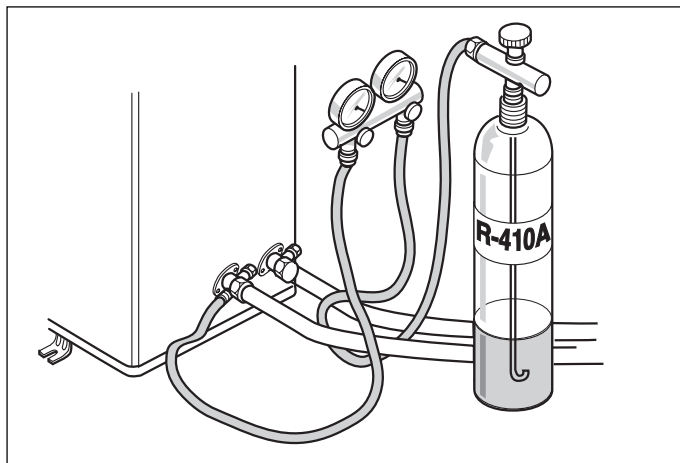
Neat.



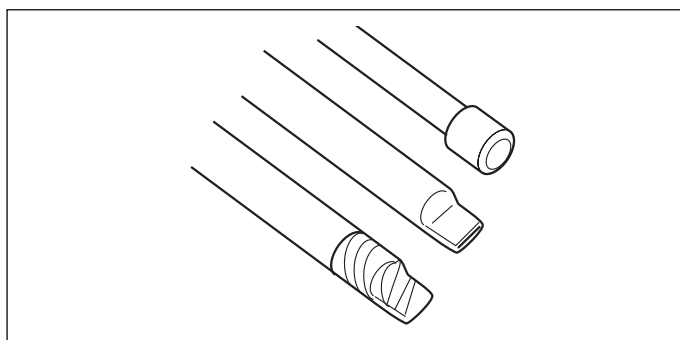
Dry nitrogen brazing.



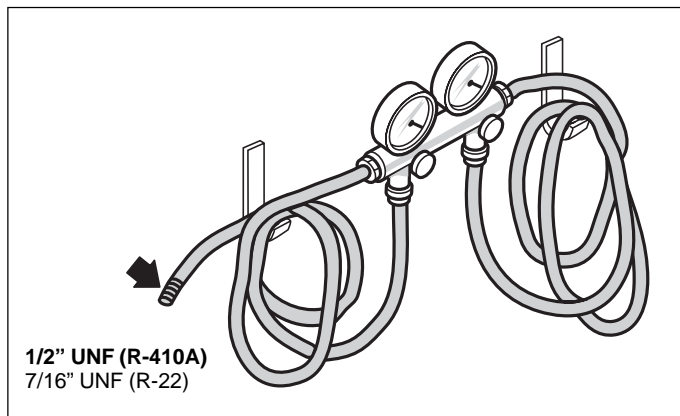
Vacuum.



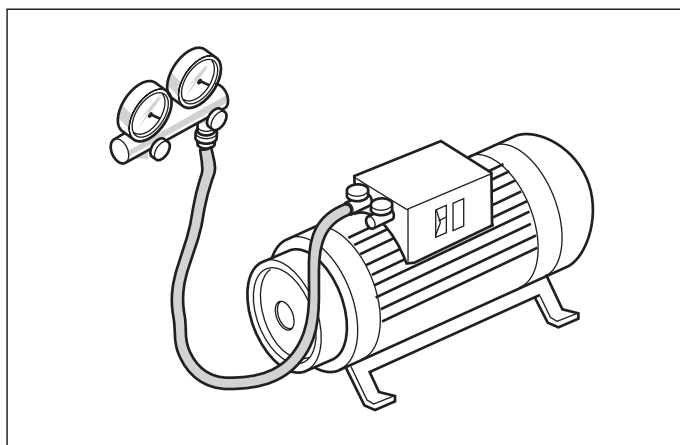
Charge liquid-no gas.



Copper tubes during storage.

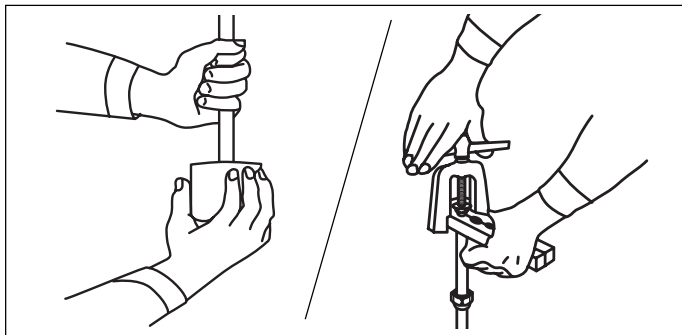


Use tools designed for R-410A higher pressure.
Keep inside clean.



2-stage vacuum pump. Replace oil regularly.

Flaring the ends of the tubing



Remove protective caps from copper tube ends.
Position tube end downward, cut the tube to the requested length and remove the burrs with a reamer.

Do not leave system open to atmosphere any longer than minimum required for installation.

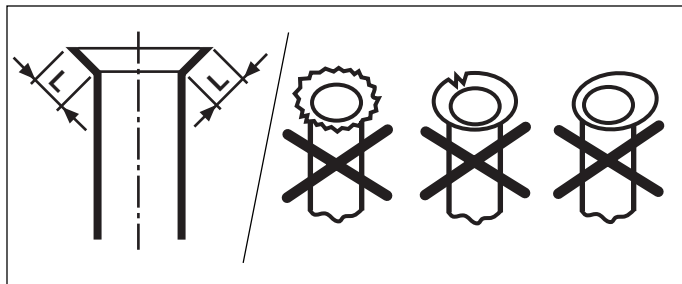
Oil in the compressor is extremely susceptible to moisture absorption.

Always keep ends of tubing sealed during installation.

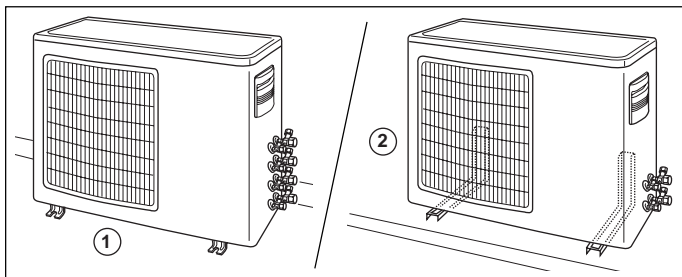
The maximum residual quantity of oil used for tubing is 40 mg/10 m.

Remove flare nuts from the unit connections and place them on the tube end.

Flare the tube with the flaring tool.



Flare end must not have any burrs or imperfections.
The length of the flared walls must be uniform.

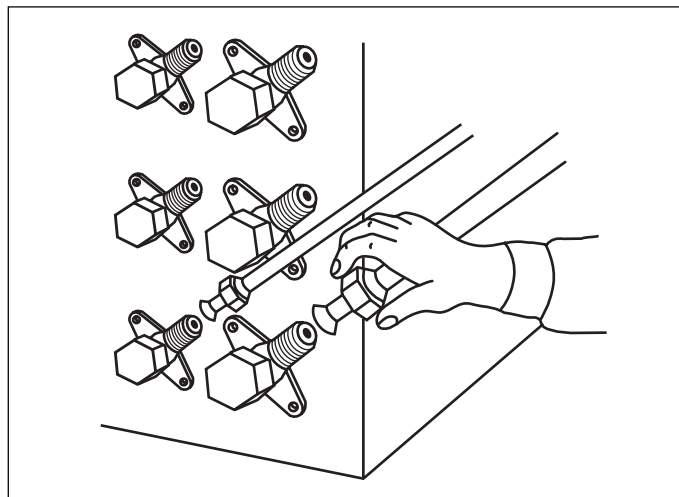


The unit can be installed:

- ① on the floor;
- ② on the wall using the bracket kit.

Connect tubing in accordance with the limits shown on Table II (Connections).

Finger-tighten the fitting several turns, then tighten it with a wrench by applying the tightening torque indicated in the table.

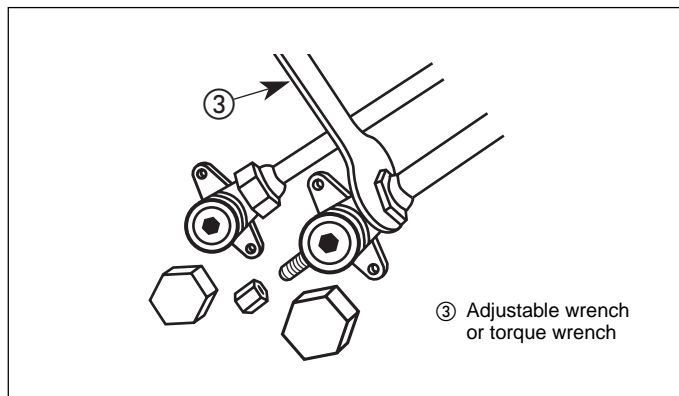


Where required, the unit must be charged with additional refrigerant.

Additional charge must be added using electronic scales and the service port (5/16") on the suction line.

Charge refrigerant only in liquid phase (bottle turned upside down or using the specific connection on bottle; see page 1).

Connection to unit



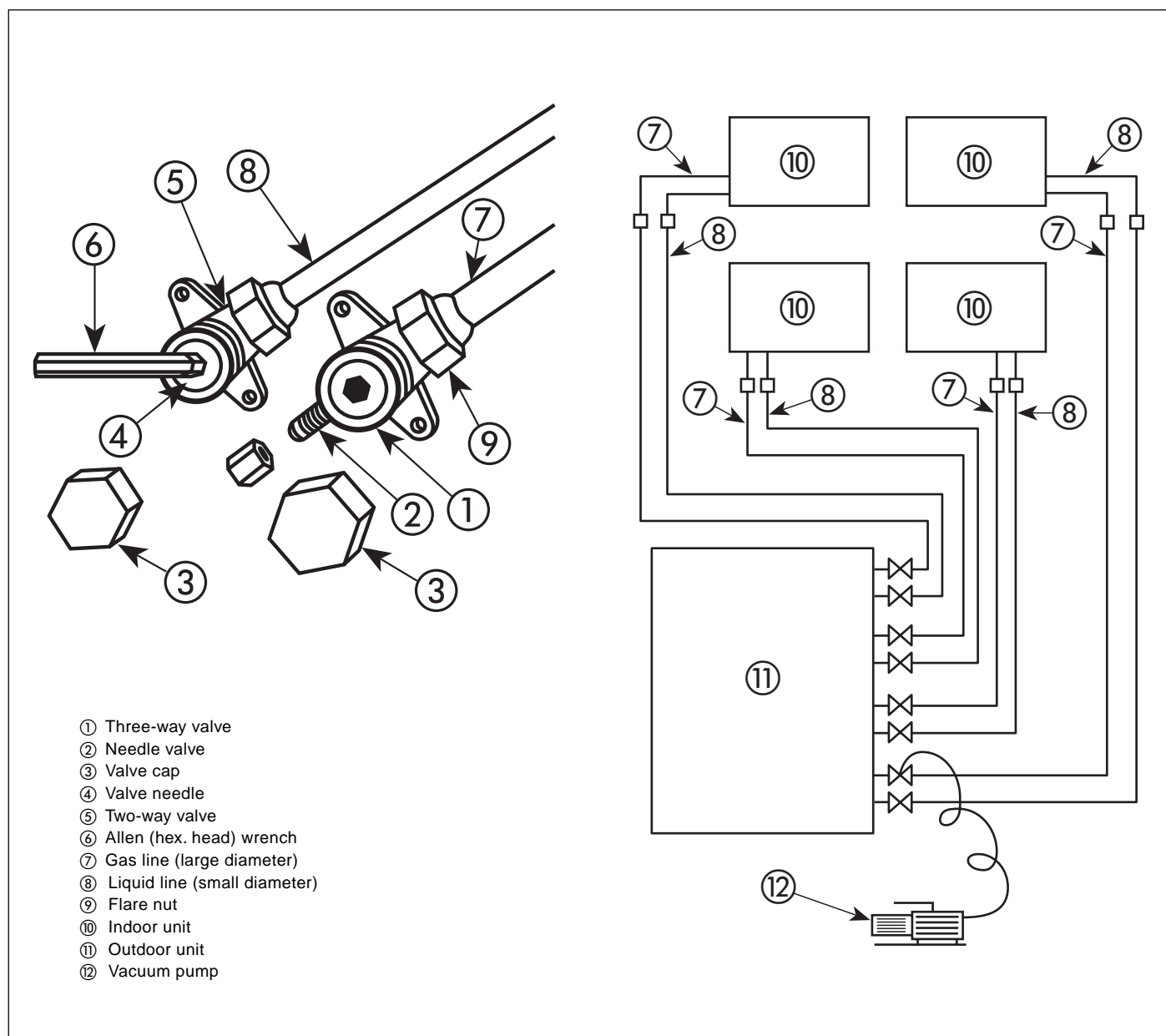
Insufficient tightening torque will cause gas leaks.
Overtightening the fittings will damage the tube flaring and cause gas leaks.

- **Make certain the refrigerant pipes and the electrical connection lines between the indoor and the outdoor unit have the same colours and reference codes (A, A1, A2, B, B1, B2) using the special adhesive references supplied.**

Tightening torque

Valve	Flare nut		Valve cap		Pressure port cap		Valve needle		Pressure port	
	Wrench mm	Nm	Wrench mm	Nm	Wrench mm	Nm	Wrench mm	Nm	Wrench mm	Nm
1/4"	17	18	23	20	18	16 - 18	Allen (hex.) 5	9	—	0.34
3/8"	22	42	23	20	18	16 - 18	Allen (hex.) 5	9	—	0.34
1/2"	26	55	29	40	18	16 - 18	Allen (hex.) 5	13	—	0.34

Refrigerant connections



Air purging

Use only a vacuum pump to purge air from the piping.

NEVER use the system compressor as a vacuum pump.

NEVER use the unit refrigerant gas to purge the connecting pipes.

No additional refrigerant has been provided in the unit for this purpose.

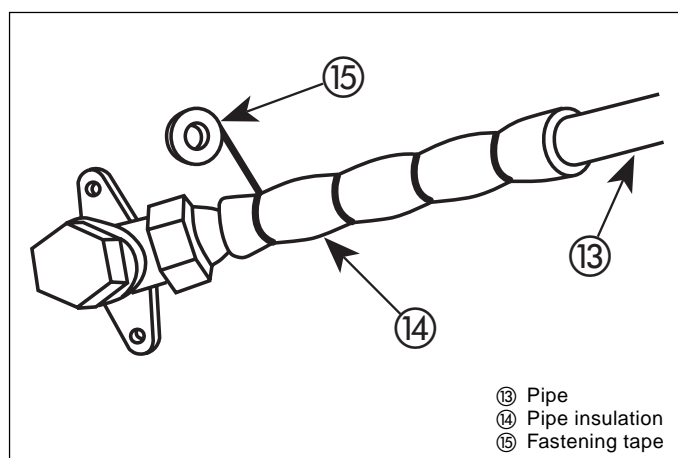
Remove the caps from the two and three-way valves.

Create a vacuum with a vacuum pump connected to the service connection of the suction shut-off valve, as shown, keeping the shut-off valves completely shut until a 50 Pa (0.5 mbar) vacuum has been reached.

Now open the two-way valve for 3 sec., then quickly shut it to check for possible leaks.

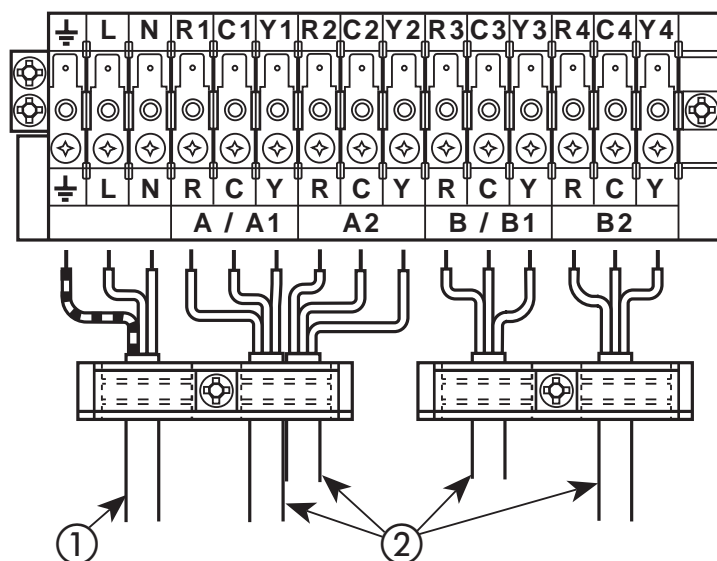
After the leak check, fully open the two and three-way valves.

Replace caps and check for leaks.



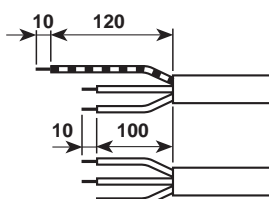
Once all connections have been completed, check for leaks by using a leak detector specific for HFC refrigerants. Finally wrap the valves and pipes with anti-condensate insulation and tighten this with tape, without exerting too much pressure on the insulation. Repair and cover any possible cracks in the insulation. Fix the pipes to the wall with hooks or conduits.

Cooling only unit



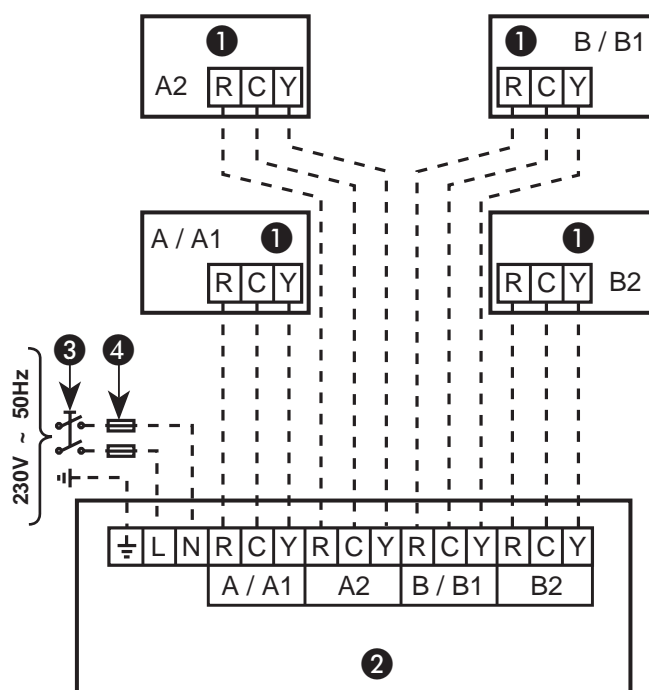
Terminal box legend

- ⏏ Earth.
- L Live power supply.
- N Neutral power supply.
- R Live connection indoor/outdoor unit.
- C Neutral connection indoor/outdoor unit.
- Y Compressor interlocking contact.

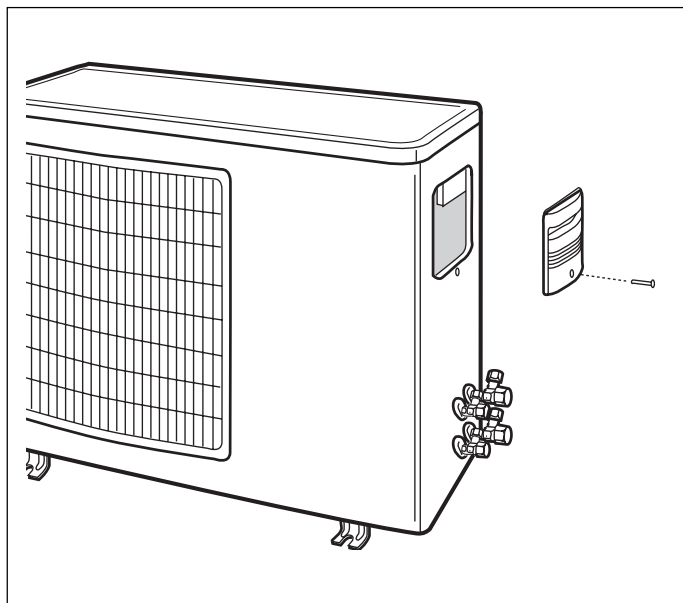


- ① Mains supply connecting cable (field wiring).
- ② Connecting cable, indoor-outdoor units (field wiring).
- ① Indoor unit
- ② Outdoor unit
- ③ Main switch
- ④ Time-delay fuse or circuit breaker (see table IV "Electrical data").

Cooling only system



Electrical connections



Remove electric box cover.
Connect the wires to the terminals according to the wiring diagram and firmly tighten.

IMPORTANT:
Make ground connection prior to any other electrical connections.

- Make electrical connections between units prior to proceeding to mains supply unit connection.
- Before proceeding with the unit connection to the mains supply locate live **L** and neutral **N**, then make connections as shown in the wiring diagram.
- Ensure that mains supply connection is made through a switch that disconnects all poles, with contact gap of at least 3 mm.
- The mains supply connecting cable must be H07 RN-F (or higher) type, synthetic rubber insulation with Neoprene coating, according to EN 60335-2-40 and HD277.S1 codes.
- **Make certain the refrigerant pipes and the electrical connection lines between the indoor unit and the outdoor unit have the same colours and reference codes (A, A1, A2, B, B1, B2) using the special adhesive references supplied.**

Note:
All field electrical connections are the responsibility of the installer.

Refer to the indoor unit installation manual for sizing the connection wires between units.

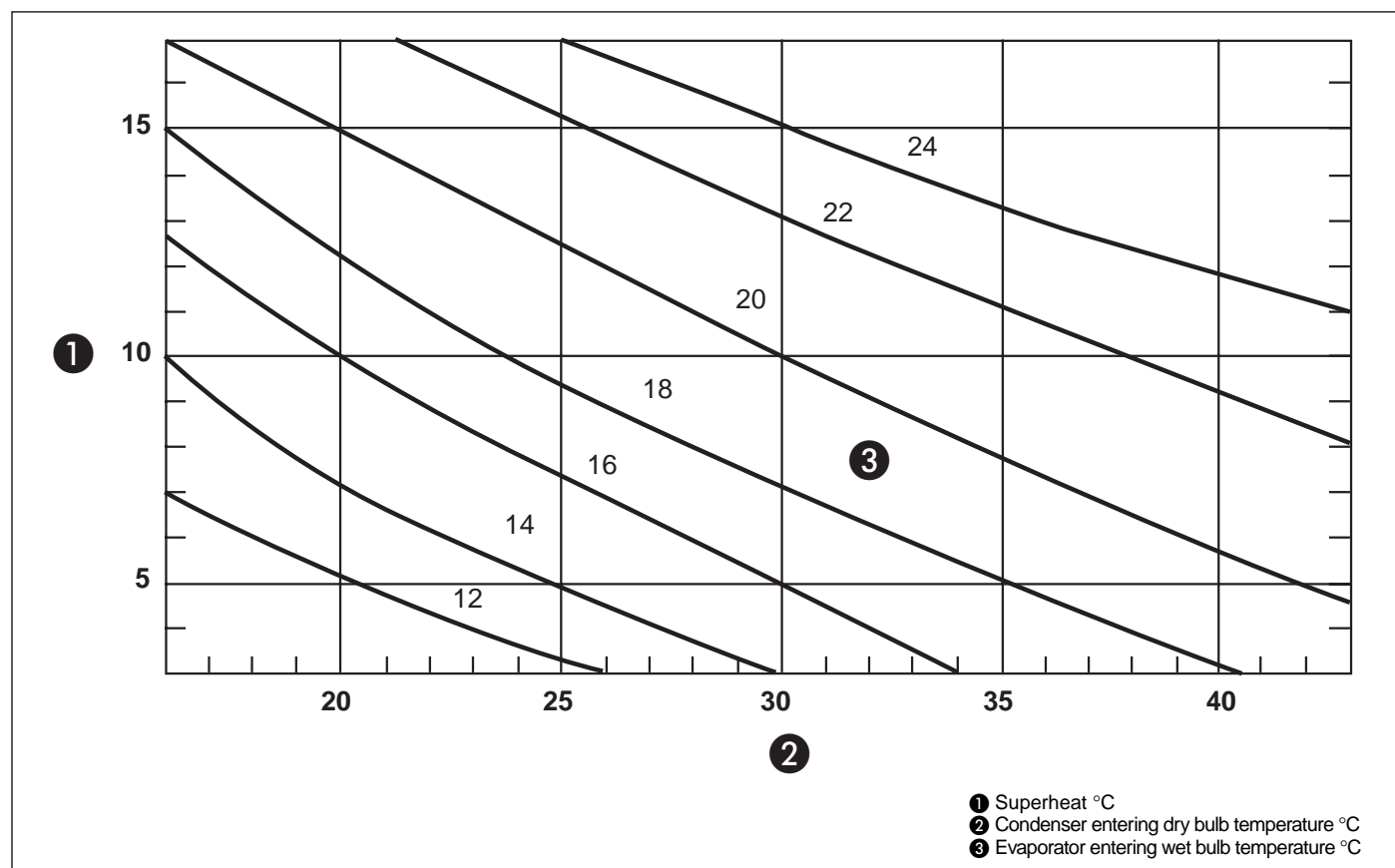
Note:
After connections have been completed, replace electric box cover.

Table IV: Electrical data

	Starting current (3)	Power input ⁽²⁾						Main power connections ⁽⁶⁾		
		Cooling			Heating			Time-delay fuse gL type	Wire size (4-5)	
		Nominal conditions 230V ~ 50Hz ISO 5151.2/T1 indoor 27°C d.b. 19°C w.b. outdoor 35°C d.b. 24°C w.b.	Peak conditions 198V ~ 50Hz ISO 5151.2/T1 indoor 32°C d.b. 23°C w.b. outdoor 43°C d.b. 32°C w.b.	Nominal conditions 230V ~ 50Hz ISO 5151.2/High+ indoor 20°C d.b. 15°C w.b. outdoor 7°C d.b. 6°C w.b.	Peak conditions 198V ~ 50Hz ISO 5151.2/High+ indoor 27°C outdoor 24°C d.b. 18°C w.b.					
Cooling only	A	A	W	A	W	A	W	A	mm²	
38GL2M12G	30	6.6	1460	9,5	1850	---	---	---	12	2.5
38GL2M18G	30	9.0	2040	11.7	2500	---	---	---	16	2.5
38GL2M24G	30	11.5	2625	15.6	3060	---	---	---	16	2.5
38GL3M21G	30	10.8	2450	16.3	3180	---	---	---	16	2.5
38GL4M24G	30	11.3	2580	16.6	3230	---	---	---	20	2.5

- Notes:**
1. Unit is suitable for outdoor installation.
 2. Data referred to the outdoor unit only.
 3. Starting current duration is usually lower than 1 sec.
 4. The section of the cables refers to cables with a maximum length of 15 metres.
 5. The mains supply connecting cable must be H07 RN-F (or higher) type, synthetic rubber insulation with Neoprene coating, according to EN 60335-2-40 and HD277.S1 codes.
 6. If the indoor unit is provided with an electric heater, consult indoor unit installation manual for correct sizing of the wires.

Testing, Pump Down and check the refrigerant charge



Testing

IMPORTANT:

Test each single unit separately.

Pump Down

Pump down is an operation intended to collect all the system refrigerant in the outdoor unit.

This operation must be carried out before disconnecting the refrigerant tubing in order to avoid refrigerant loss to the atmosphere, if it becomes necessary to disconnect the refrigerant connections for unit repair, removal or disposal; in this case, after removal, unit must be delivered to an appropriate disposal centre or the original dealer.

Shut off the liquid valve with the Allen wrench.
 Turn the system on in cooling with fan operating at high velocity. (Compressor will immediately start, provided 3 minutes have elapsed since the last stop).
 After 2 minutes of operation, shut the suction valve with the same wrench.
 Turn the system off and switch mains supply off.
 Disconnect tubing.
 After disconnection, protect valves and tubing ends from dust.

Check the refrigerant charge

- This check becomes necessary after any refrigerant leak due to incorrect connection, or after replacement of the compressor.
- The best method to correctly charge refrigerant is to completely empty the refrigerant circuit using refrigerant recovery equipment.
 Then charge the exact quantity of refrigerant according to the data shown on the unit nameplate. This can be done with charging equipment of the "Dial a charge" type.

- R-410A refrigerant cylinders contain a dip tube which allows liquid refrigerant to flow from the cylinder in an upright position.
Charge R-410A units with cylinder in upright position and a commercial-type metering device in manifold hose in order to vaporize the liquid refrigerant before it enters in the unit. Charge refrigerant into suction-line.

- The refrigerant charge check can be carried out using the superheating method; this is only possible, if the ambient temperature is above 15°C.

Superheating method

IMPORTANT:

To check the refrigerant charge in the cooling only units it is important that all the indoor units are operating contemporaneously.

Check temperature at the points shown in the illustration:

- T_e (evaporating temp.) with manometer
- T_a (suction gas temp.) contact thermometer superheat ($T_a - T_e$) should equal the table value $\pm 2^\circ\text{C}$.

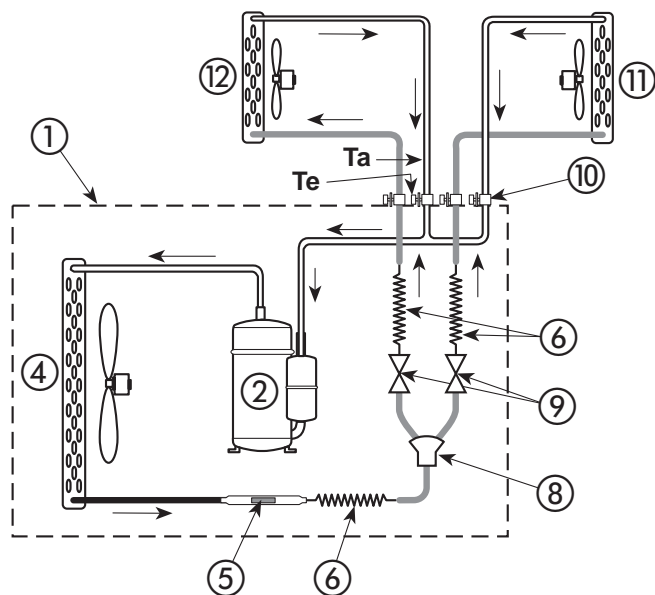
If superheat is outside the indicated limits, proceed as follows:

- If superheat is lower than the table value, the refrigerant charge is excessive or the air quantity passing through the evaporator (indoor unit) coil is insufficient. If superheat is higher than the table value, the refrigerant charge is insufficient or the expansion device (capillary or Accurater) is clogged.
- By knowing the temperature of the air entering the condenser coil it is possible to determine the correct value of the superheat, we should have at the compressor inlet.
 Wait approx. 5 minutes after adding or removing refrigerant; if the room conditions or those of the air entering the condenser vary during the charging operation, repeat all readings.

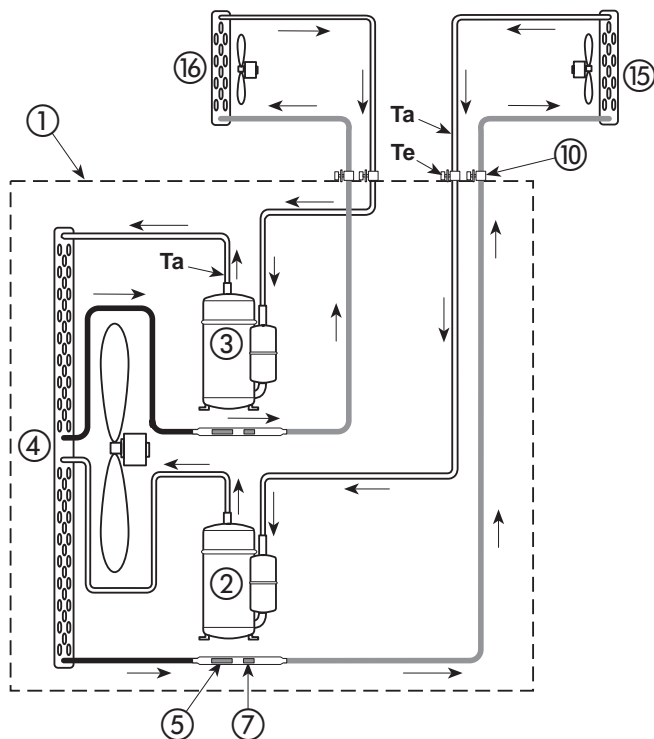
Check the refrigerant charge

Refrigerant charge control

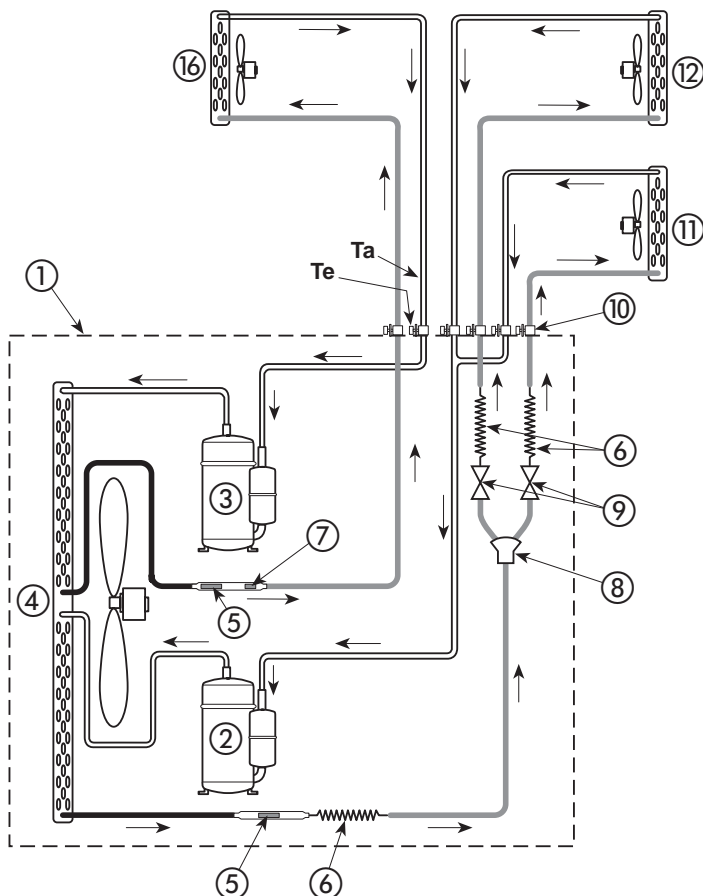
38GL2M12G



38GL2M18G - 38GL2M24G



38GL3M21G

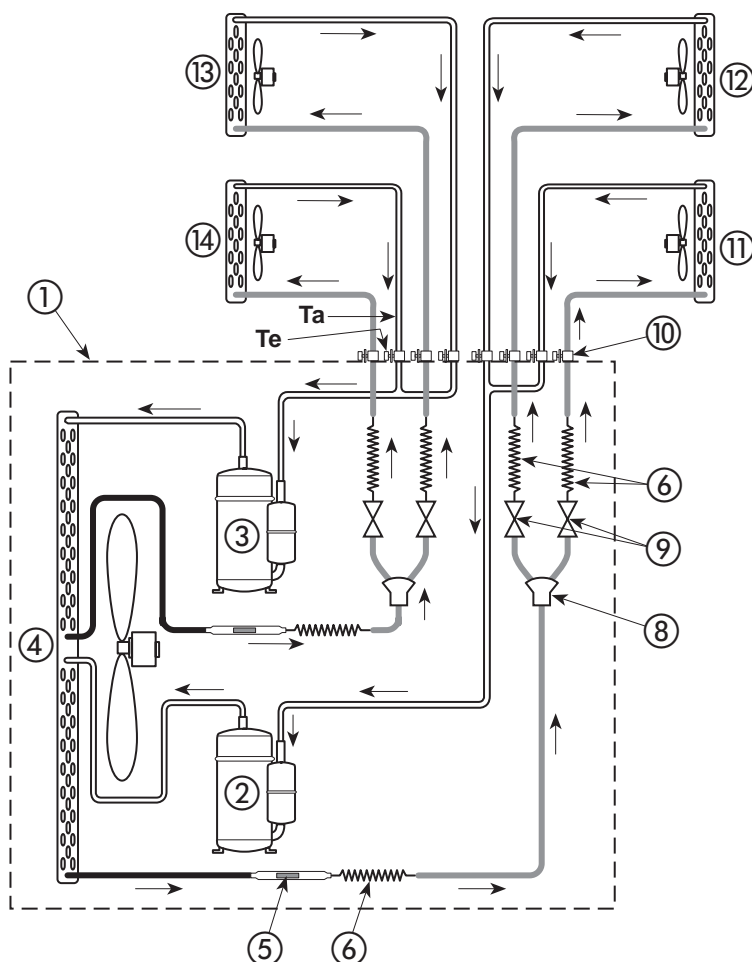


- ① Outdoor unit
- ② Circuit A compressor
- ③ Circuit B compressor
- ④ Outdoor unit coil
- ⑤ Filter
- ⑥ Expansion device (Capillary)
- ⑦ Expansion device (Accurater)
- ⑧ Distributor
- ⑨ Solenoid valve
- ⑩ Service valve
- ⑪ Indoor unit coil A1
- ⑫ Indoor unit coil A2
- ⑬ Indoor unit coil B1
- ⑭ Indoor unit coil B2
- ⑮ Indoor unit coil A
- ⑯ Indoor unit coil B

- Gas
- Liquid + Gas
- Liquid

Refrigerant charge control

38GL4M24G



- ① Outdoor unit
- ② Circuit A compressor
- ③ Circuit B compressor
- ④ Outdoor unit coil
- ⑤ Filter
- ⑥ Expansion device (Capillary)
- ⑦ Expansion device (Accurater)
- ⑧ Distributor
- ⑨ Solenoid valve
- ⑩ Service valve
- ⑪ Indoor unit coil A1
- ⑫ Indoor unit coil A2
- ⑬ Indoor unit coil B1
- ⑭ Indoor unit coil B2
- ⑮ Indoor unit coil A
- ⑯ Indoor unit coil B

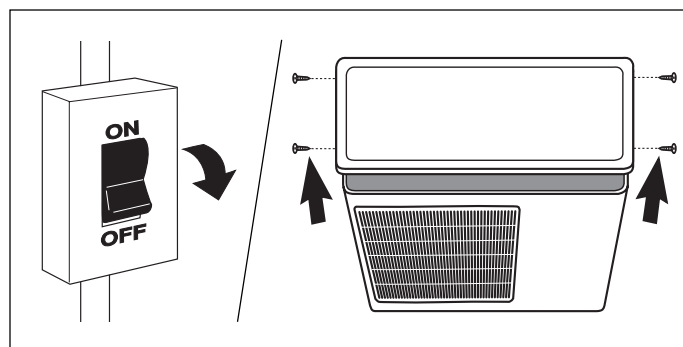
- Gas
- Liquid + Gas
- Liquid

Unit maintenance

The following maintenance operations must be carried out by qualified personnel.

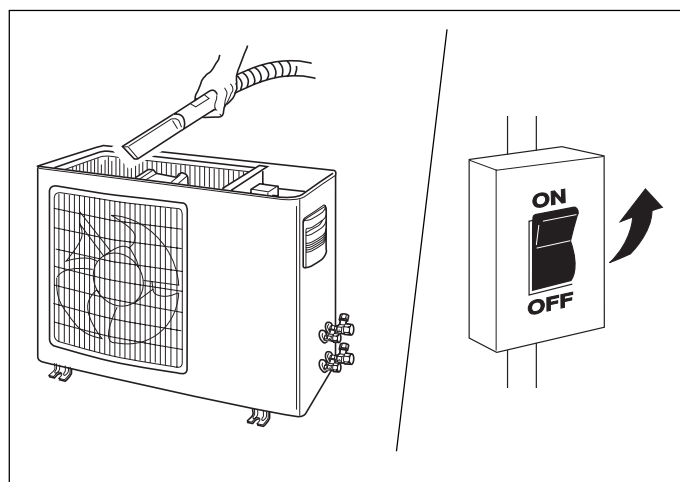
Cleaning the coil

When necessary, proceed as follows for more careful cleaning of the coil:



Switch the mains supply OFF.

Remove unit top cover by loosening holding screws and lifting the cover.



Carefully clean the coil with a vacuum cleaner from inside to outside.

With the same vacuum cleaner, dust the inside of the fan compartment and the fan blades. Avoid any damage to the blades which may cause future vibrations and noise.

Replace the unit cover and tighten the screws.

Troubleshooting, guide for the owner and accessories

Troubleshooting

Compressor and fan of the outdoor unit will not start:

- Unit not energized; check the mains power connections.
- Main switch OFF; check and put to the ON position.
- Main switch fuses have blown; replace.
- Wait for 3 minutes; compressor cycling protection is on.
- Accessory pressure switch open; check and eliminate cause.
- Mains voltage too low.
- Electrical connections loose or wrong; check and repair.

Compressor will not start, but outdoor fan is running:

- Electrical connections of compressor loose or wrong; check and repair.
- Compressor burnt out, seized or protection device on; check for the cause and replace compressor if necessary.
- Run capacitor faulty; replace.

Compressor starts, but stops due to its overtemperature protection (other than stops caused by the normal operation of the thermostat):

- Wrong refrigerant charge (excessive or low) or air or other non condensable gases in the circuit; drain refrigerant (see note 1), evacuate and recharge.
- Mains voltage wrong (too high or too low).
- Condenser coil obstructed; remove obstructions.
- Outdoor fan off; check cause and repair.
- Run capacitor faulty; check and replace.
- Wrong indoor unit thermostat; replace.
- Refrigerant circuit clogged; check and remove obstructions.
- Expansion device clogged or covered with ice; drain refrigerant (see note 1), evacuate and recharge.

Compressor runs continuously:

- Unit selected too small for actual air conditioning needs.
- Indoor temperature selection too low; check temperature selection.
- Refrigerant charge low; check and add refrigerant.
- Compressor valves broken; replace compressor.
- Condenser fan faulty; replace.
- Air or other non condensable gases in the circuit; drain refrigerant (see note 1), evacuate and recharge.
- Obstructions at air intake or dirty indoor unit filters; remove obstruction or clean filter.

Discharge pressure too high:

- Outdoor coil dirty or obstructed; clean or remove obstructions.
- Condenser fan faulty; replace.
- Refrigerant charge too high; drain some refrigerant (see note 1).
- Air or other non-condensable gases in the circuit; drain refrigerant (see note 1), evacuate and recharge.

Discharge pressure too low:

- Refrigerant charge too low; add refrigerant.
- Compressor valves broken; replace compressor.
- Outdoor coil dirty or obstructed; clean or remove obstructions.
- Indoor unit air filter dirty; clean filter.

Suction pressure too high:

- Compressor valves broken; replace.
- Internal high pressure relief valve open; check for cause and repair.
- Refrigerant charge too high; drain some refrigerant (see note 1).

Suction pressure too low:

- Refrigerant charge too low; add refrigerant.
- Evaporator coil covered with ice; see the following points.
- Air circulation on the evaporator unit not sufficient; check for the cause and repair.
- Expansion device or suction line clogged; check and repair.

Outdoor fan cycling due to its overtemperature protection:

- Fan capacitor faulty; replace.
- Electrical connection loose; check connections.
- Fan bearing seized; check and repair.
- Expansion device clogged or covered with ice; drain refrigerant (see note 1), evacuate and recharge.

Note 1:

Do not release refrigerant to the atmosphere; use refrigerant recovery equipment.

Guide for the owner

When installation and tests are completed explain the Operation and Maintenance Manual to the owner, with particular attention to the main operating modes of the air conditioner, such as:

- Turning the unit on and off.
- Functions of the remote control.
- Removal and cleaning of the air filters.

Leave the two installation manuals for the indoor and outdoor units with the owner for future use during maintenance operations or for any other needs.

Table V: Accessories

Description	Part number	38GL_M...G				
		2M12G	2M18G	2M24G	3M21G	4M24G
Wall bracket kit	38YL-900---002-40	●				
Wall bracket kit	38YL-900---001-40		●	●		
PTC starting kit (*) : 2	38YL-900---010-40	●	● (*)	● (*)	● (*)	● (*)



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The manufacturer reserves the right to change any product specifications without notice.